

## A RECONSIDERATION OF THE GENUS *PROSTHECHEA* (ORCHIDACEAE)

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### ABSTRACT

The genus *Encyclia* is currently divided into three subgenera: *Encyclia* subgenus *Osmophytum*, *Encyclia* subgenus *Encyclia*, and *Encyclia* subgenus *Dinema*. A parsimony based cladistic analysis of the morphological characteristics of the subgenera and two outgroup genera was performed. The morphology of the subgenera supports a new generic delimitation. *Encyclia* subgenus *Osmophytum* is raised to generic level and treated as *Prosthechea*.

KEY WORDS: *Anacheilium*, *Epithecia*, *Encyclia*, *Hormidium*, *Prosthechea*, Orchidaceae, systematics, classification, taxonomy

The previous taxonomic treatments of *Prosthechea* are a complex succession of invalid and misapplied nomenclature involving the following seven generic names: *Epidendrum* L. (1763), *Encyclia* Hook. (1828), *Dichaea* Lindl. (1833), *Prosthechea* Knowles & Westc. (1838), *Epithecia* Knowles & Westc. (1839), *Hormidium* Lindl. ex Heynhold (1841), and *Anacheilium* Hoffmanns. (1842). This classical case of nomenclatural confusion has resulted in a problematic taxonomic classification of the overlooked genus *Prosthechea*.

When Swartz described the taxon *Epidendrum glaucum* Sw. in 1788 he placed it in *Epidendrum* sensu Linnaeus. Lindley transferred the taxon to *Dichaea glauca* (Sw.) Lindl. in 1833, thus establishing the genus *Dichaea*. Rudolf Schlechter (1914-15) transferred 20 *Dichaea* taxa to *Epithecia*, an invalid name for a different taxon. Schlechter listed *Dichaea glauca* (Sw.) Lindl. as a synonym for *Epithecia glauca* of Knowles & Westcott. This was incorrect because the genus *Dichaea* was based on *Epidendrum glaucum* Sw. not *Epidendrum glaucum* (Knowles & Westc.) Lindl. Schlechter's treatment must be rejected not only because *Epithecia* is a superfluous name, but also because all of the species placed in *Epithecia* by Schlechter are now members of the Maxillarieae, not the Epidendreae, i.e., *Epithecia* as circumscribed by Schlechter is polyphyletic. Schlechter was probably confused by Lindley's treatment of *Epidendrum glaucum* (Knowles & Westc.) Lindley not *Epidendrum glaucum* of Swartz.

Hooker described the genus *Encyclia* based on *Encyclia viridiflora* in 1828. Subsequently, Lindley sunk the genus into *Epidendrum* subgenus *Encyclium* in 1852. *Encyclia* was unused until Schlechter (1914) revived it. Other taxonomist then started placing various taxa in the genus. Lemée (1955) inexplicably transferred five taxa from *Epidendrum* subg. *Aulizeum* Lindl. to *Encyclia*, enlarging the circumscription of *Encyclia* by Schlechter. However, it was not until 1961 that Dressler circumscribed *Encyclia* describing two sections, sect. *Encyclia* and sect. *Osmophytum*. Subsequently, Dressler (1971) revised the genus to include six sections and three subgenera of *Encyclia*. Pabst, Moutinho, & Pinto (1981) transferred two taxa in *Encyclia* sect. *Hormidium* Dressler to *Hormidium* raising the group to generic level and placing the taxa in *Encyclia* section *Euchile* into *Hormidium* Lindl. ex Heynh. Pabst, Moutinho, & Pinto (1981) transferred the taxa in *Encyclia* section *Osmophytum* to *Anacheilium*. I agree with Dressler that *Encyclia* sections *Osmophytum* and *Hormidium* are not sharply differentiated (Dressler 1970). Pabst was correct in his removal of *Encyclia* subgenus *Osmophytum* from *Encyclia*, but splitting the clade into two genera is unjustified.

After the description of *Hormidium uniflorum* (Lindl.) Heynh. in 1841, the generic name was unused until it was revived by Cogniaux (1898). Schlechter & Brieger had already began transferring plants into the genus when Pabst, Moutinho, & Pinto (1981) presented their revision of *Hormidium*. Although the genus *Hormidium* Lindl. ex Heynh. is validly published (Brieger & Hunt 1969), this group of over 100 species, treated as *Hormidium* by Brieger, includes *Prosthechea glauca* and the generic name *Prosthechea* has priority.

Following the publication of *Anacheilium cochleatum* (L.) Hoffmanns (1842), the generic name had only been used for one other taxon, *A. fragrans* (Sw.) Acuña (1939), until it was applied to 22 of the species in *Encyclia* sect. *Osmophytum* by Pabst, Moutinho, & Pinto (1981). However, *Anacheilium* does not have priority for this group of taxa. This clade of 90 taxa includes *Prosthechea glauca* and the generic name *Prosthechea* has priority.

Knowles & Westcott (1838) first published the genus *Prosthechea* to include only *P. glauca*. However, the following year (1839) they changed the generic name to *Epithecia* because they felt that *Prosthechea* was too similar to another unspecified generic name. Examination of the generic names published in *Index Kewensis* reveals the very similar previously published generic name *Prosthesis* Blume (1826) (Violation). This may be the unspecified name that induced Knowles & Westcott (1839) to change the generic name from *Prosthechea* to *Epithecia*. Since *Prosthechea* is not a homonym of *Prosthesis*, the original publication is valid (ICBN 1994). The new name *Epithecia* is illegitimate (*nomen illegitimum*) since the previous name had been validly published and ought to have been accepted by the authors.

*Epidendrum* section *Osmophytum* was described by Lindley (1839) for plants with usually scented flowers. Subsequently, Lindley (1840a) transferred *Prosthechea glauca* to *Epidendrum*, making the combination *Epidendrum glaucum* (Knowles & Westc.) Lindl. thus recognizing *Epithecia glauca* Knowles & Westc. as a synonym and placing it in *Epidendrum* section *Osmophytum*. This combination is a *nomen illegitimum* since it is later homonym of *Epidendrum glaucum* Sw. which was transferred to *Dichaea* by Lindley himself. When Lindley (1853) published *Folia*

*Orchidaceae*, he placed *Epidendrum glaucum* (Knowles & Westc.) Lindl. in *Epidendrum* subgenus *Encyclium* section *Sarcochila*, and not as previously classified in *Epidendrum* subgenus *Osmophytum*. *Prosthechea glauca* was subsequently transferred to *Encyclia* as *Encyclia glauca* (Knowles & Westc.) Dressler & Pollard (1971) and assigned to *Encyclia* subgenus *Osmophytum* (Lindl.) Dressler.<sup>1</sup>

An ongoing systematic study of the genus *Encyclia* based on holomorphology has determined that the genus is neither morphologically cohesive nor monophyletic (Higgins, unpublished). In a preliminary molecular study, analysis of the internal transcribed spacer (ITS) sequences of nuclear ribosomal DNA supports the morphological conclusion that the *Encyclia* subgenus *Osmophytum* clade should be raised to the generic level because these species are sister to the *Cattleya-Laelia* clade not to *Encyclia* subgenus *Encyclia*. However, the monophyly of the three currently recognized subgenera of *Encyclia* i.e., *Encyclia* subg. *Osmophytum*, *Encyclia* subg. *Encyclia*, and *Encyclia* subg. *Dinema*, is supported by cladistic analysis of both morphological and molecular data.

The morphological matrix was constructed using MacClade (Maddison & Maddison 1992). Parsimony analysis using PAUP (Swofford 1993) of the morphological data set places *Cattleya* as sister to *Encyclia* subgenus *Osmophytum* (= *Prosthechea*) and *Encyclia* subgenus *Dinema* as sister to that combined clade (Figure 1). The "branch and bound" analysis of a morphological matrix (Table 1) produced two equally parsimonious trees. The topology of the presented tree (Figure 1) is the same as the tree produced by Autodecay (Eriksson 1997). The *Prosthechea*—*Cattleya* clade has bootstrap support. All characters (Table 2) were analyzed as unweighted and the character states were unordered. Taxa with two character states were coded and analyzed as polymorphic.

Characters that distinguish *Prosthechea* (= *Encyclia* subg. *Osmophytum*), *Encyclia sensu stricto* (= *Encyclia* subg. *Encyclia*), and *Dinema* (= *Encyclia* subg. *Dinema*), are listed in Table 3; generic synapomorphies are indicated in boldface type.

In the interest of nomenclatural stability, the current *International Code of Botanical Nomenclature* (ICBN 1994) suggests in the preamble that names should only be changed for a compelling biological reason. The treatment of this taxon, *Prosthechea*, at the generic level will lead to a more predictive classification because the *Encyclia* subgenus *Osmophytum* group is morphologically very distinct from *Encyclia* subgenus *Encyclia*. Additionally the two taxa are not each others closest relatives and the genus *Encyclia* as currently circumscribed is not monophyletic. Because the oldest available generic name used in this clade is *Prosthechea*, this name has priority according the ICBN. Conservation of *Anacheilium* is inappropriate because of its limited usage and previous application to only a few members of the clade. Conservation of *Epithecia* is not considered because it has not been used.

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<sup>1</sup> NOTES: The note in *Index Kewensis* under *Epithecia* (Knowles and Westc.), listing it as equal to *Dichaea* Lindl. is incorrect, and the note under genus *Dichaea* listing *Epithecia* Knowles and Westc. as a synonym is incorrect, because the genus *Dichaea* Lindl. is based on *Epidendrum glaucum* Sw. not *P. glauca* Knowles & Westcott.

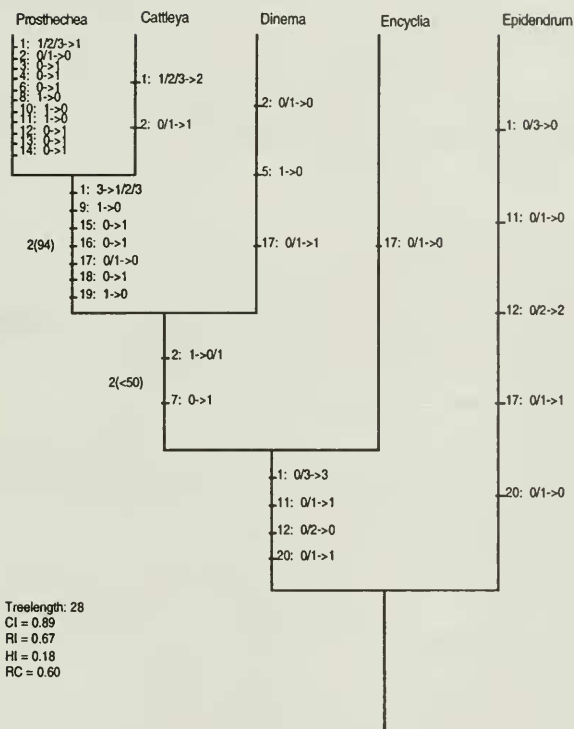


Figure 1. Selected Morphological Generic Phylogenetic Tree. The characters supporting a clade are shown on the right of the vertical line and the numbers to the left are decay (bootstrap) values.

Table 1. Morphological Matrix.

Character	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
<i>Epidendrum</i>	{01}	1	{01}	0	1	0	0	1	1	1	0	2	0	0	0	0	1	0	-	0
<i>Dinema</i>	3	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	1	0	1	1
<i>Encyclia</i>	3	1	0	0	1	0	0	1	1	1	1	0	0	0	0	0	0	0	1	1
<i>Cattleya</i>	2	1	0	0	1	2	1	1	0	1	1	0	0	0	1	1	0	1	0	1
<i>Prosthechea</i>	1	0	1	1	{01}	1	1	0	0	0	0	1	1	1	1	1	0	1	0	1

Table 2. Character States.

Character	States
1. Pseudobulb	absent(0), fusiform(1), cylindrical(2), ovoid(3)
2. Leaf thickness	thick(0), thin(1)
3. Druse-type crystals	absent(0), present(1)
4. Capsule strap	absent(0), present(1)
5. Inflorescence	sessile(0), scape(1)
6. Capsule shape	ellipsoid(0), 3-winged/angled(1), 9-ribbed(2)
7. Spathe	absent(0), present(1)
8. Flower	non-resupinate(0), resupinate(1)
9. Column sinuses	shallow(0), deep(1)
10. Callus shape	pad(0), ridges(1)
11. Anther cap	not appressed(0), appressed(1)
12. Labellum fusion	basal(0), partial(1), fused(2)
13. Column shape	not gibbous(0), gibbous(1)
14. Midtooth appendage	absent(0), present(1)
15. Midtooth shape	stout(0), ligulate(1)
16. Midtooth relative size	small(0), large(1)
17. Lateral teeth shape	stout(0), petaloid(1)
18. Midtooth to lateral teeth length	shorter(0), equal(1)
19. Column wings	absent(0), present(1)
20. Rostellum	cleft(0), individed(1)

Table 3. Characters distinguishing *Prosthechea*, *Encyclia s. s.* and *Dinema* (Hooker 1841; Dressler & Pollard 1971; Pabst, Moutinho, & Pinto 1981).

	<i>Prosthechea</i>	<i>Encyclia s. s.</i>	<i>Dinema</i>
Pseudobulbs	<b>fusiform, often flattened</b>	usually ovoid or conic-ovoid	ovoid
Leaves	<b>usually thin</b>	thick	<b>thin</b>
Glycoside crystals	<b>usually present</b>	absent	absent
Inflorescence	prominent spathe, with scape or sessile	without spathe, with scape	conspicuous spathe, <b>sessile</b>
Flower	<b>usually non-resupinate</b>	resupinate	resupinate
Labellum callus	<b>usually a thick pad</b>	2 fleshy ridges	2 parallel ridges
Labellum adnate	<b>half of column</b>	usually at base	near base
Column	<b>usually gibbous, never winged</b>	not gibbous, often winged	not gibbous, winged
Column midtooth	large, narrowly deltoid, ligulate, or subflabellate	short, usually broadly deltoid	short, rounded, shorter than lateral teeth
Midtooth appendage	<b>fleshy, knob-like, obtuse or truncate</b>	absent	absent
Midtooth to anther	<b>not appressed</b>	appressed	appressed
Column sinuses	deep usually acute	broad shallow	shallow
Lateral teeth	stout	<b>stout</b>	<b>petaloid</b>
Seed capsule	<b>3-winged or sharply 3-angled</b>	fusiform	ellipsoid
Capsule suture	<b>covered by strap of tissue</b>	strap absent	strap absent

## TAXONOMY

*Prosthechea* Knowles & Westc., Fl. Cab. 2:111. 1838. TYPE: *Prosthechea glauca* Knowles & Westc., Fl. Cab. 2:111. 1838.

Synonyms: *Anacheilium* Rchb. ex Hoffmanns., Verz. Orchid. 21. 1842.  
*Epithecia* Knowles & Westc., Fl. Cab. 2:167. Jan 1839.  
*Hormidium* Lindl. ex Heynh., Nom. Bot. Hort. 1:888. 1841.

**Pseudobulbs** fusiform, often flattened. **Leaves** 1-5, thin. **Inflorescence** scapose or sessile, often with a prominent spathe. **Flowers** usually non-resupinate. **Labellum** adnate to approximately one half of the column, the callus typically a thickened pad. **Column** usually gibbous, lacking wings; midtooth, usually large, erect at apex of column, often covered by a fleshy knob-like, obtuse or truncate appendage, ligulate (connected to the anther cap by a thin flap of tissue), deltoid, subquadrate, or subflabellate, and sometimes fimbriate; anther cap not appressed by

the midtooth; lateral teeth separated from the midtooth by deep narrow sinuses; rostellum undivided but not cleft. **Capsule** three-winged or sharply three-angled, the suture covered by a strap of tissue that lifts upon dehiscence. **Glycoside crystals** large, druse-type, usually present throughout the plant.

**ETYMOLOGY:** From *prostheke* (Gr., appendage), in reference to the appendage of tissue on the back of the column of *Prosthechea glauca* (Schultes & Pease 1963).

Only new combinations and basionyms are enumerated in the species list. Consideration of sectional placement is beyond the scope of this paper.

*Prosthechea abbreviata* (Schltr.) W.E. Higgins, *comb. nov.* **BASIONYM:** *Epidendrum abbreviatum* Schltr., *Repert. Spec. Nov. Regni Veg.* 3:107, n. 64. 1906.

*Prosthechea aemula* (Lindl.) W.E. Higgins, *comb. nov.* **BASIONYM:** *Epidendrum aemulum* Lindl., *Bot. Reg.* 22: f. 1898. 1836.

*Prosthechea alagoensis* (Pabst) W.E. Higgins, *comb. nov.* **BASIONYM:** *Epidendrum alagoense* Pabst, *An. XIV Congr. Soc. Bot. Bras.* 18, n. 43. 24, t. 1, fig. B. 1964.

*Prosthechea allemanii* (Barb. Rodr.) W.E. Higgins, *comb. nov.* **BASIONYM:** *Epidendrum allemanii* Barb. Rodr., *Genera et Species Orchidearum Novarum* 1:54, n. 10. t. 400. 1877.

*Prosthechea allemanoides* (Hoehne) W.E. Higgins, *comb. nov.* **BASIONYM:** *Epidendrum allemanoides* Hoehne, *Bol. Agric. (São Paulo)* 2(4):84. 1947.

*Prosthechea baculus* (Rchb. f.) W.E. Higgins, *comb. nov.* **BASIONYM:** *Epidendrum baculus* Rchb. f., *Bonplandia* 4:214, n. 97. 1856.

*Prosthechea bennettii* (E. Christenson) W.E. Higgins, *comb. nov.* **BASIONYM:** *Encyclia bennetti* E. Christenson, *Brittonia* 46(1):29. 31, fig. 5. 1994.

*Prosthechea bicamerata* (Rchb. f.) W.E. Higgins, *comb. nov.* **BASIONYM:** *Epidendrum bicameratum* Rchb. f., *Gard. Chron.* 1194. 1871.

*Prosthechea boothiana* (Lindl.) W.E. Higgins, *comb. nov.* **BASIONYM:** *Epidendrum boothianum* Lindl., *Bot. Reg.* 24: misc. 5, n. 7. 1838.

*Prosthechea brachiata* (A. Rich. & Galeotti) W.E. Higgins, *comb. nov.* **BASIONYM:** *Epidendrum brachiatum* A. Rich. & Galeotti, *Ann. Sc. Nat.* III 3:20, n. 40. 1845.

*Prosthechea brachychila* (Lindl.) W.E. Higgins, *comb. nov.* **BASIONYM:** *Epidendrum brachychilum* Lindl., *Orchid. Linden.* 9, n. 51. 1846.

*Prosthechea brassavolae* (Rchb. f.) W.E. Higgins, *comb. nov.* **BASIONYM:** *Epidendrum brassavolae* Rchb. f., *Bot. Zeitung (Berlin)* 10:729. 1852.

- Prosthechea bulbosa* (Vell.) W.E. Higgins, *comb. nov.* BASIONYM:  
*Epidendrum bulbosum* Vell., *Florae Fluminensis* 9: t. 11. 1829.
- Prosthechea caetensis* (Bicalho) W.E. Higgins, *comb. nov.* BASIONYM:  
*Hormidium caetense* Bicalho, *Bol. Soc. Campineira Orq.* 2(4):26. 1973.
- Prosthechea calamaria* (Lindl.) W.E. Higgins, *comb. nov.* BASIONYM:  
*Epidendrum calamarium* Lindl., *Bot. Reg.* 24 misc. 88, n. 163. 1838.
- Prosthechea campos-portoi* (Pabst) W.E. Higgins, *comb. nov.* BASIONYM:  
*Encyclia campos-portoi* Pabst, *Orquidea* 29:62. 1967.
- Prosthechea campylostalix* (Rchb. f.) W.E. Higgins, *comb. nov.* BASIONYM:  
*Epidendrum campylostalix* Rchb. f., *Bot. Zeitung (Berlin)* 10:730. 1852.
- Prosthechea chacaoensis* (Rchb. f.) W.E. Higgins, *comb. nov.* BASIONYM:  
*Epidendrum chacaoense* Rchb. f., *Bonplandia* 2:20, n. 119. 1854.
- Prosthechea chimborazoensis* (Schltr.) W.E. Higgins, *comb. nov.*  
BASIONYM: *Epidendrum chimborazoensis* Schltr., *Repert. Spec. Nov. Regni.*  
*Veg.* 14:389, n. 470. 1916.
- Prosthechea chondylobulbon* (A. Rich & Galeotti) W.E. Higgins, *comb. nov.*  
BASIONYM: *Epidendrum chondylobulbon* A. Rich & Galeotti, *Ann. Sci. Nat.*  
*Bot.* III 3:20. 1845.
- Prosthechea citrina* (La Llave & Lex.) W.E. Higgins, *comb. nov.* BASIONYM:  
*Sobralia citrina* La Llave & Lex., *Nov. Veg. Descr.* 21. 1825.
- Prosthechea cochleata* (L.) W.E. Higgins, *comb. nov.* BASIONYM:  
*Epidendrum cochleatum* L., *Sp. Pl.* (ed. 2) 1351. 1763.
- Prosthechea concolor* (La Llave & Lex.) W.E. Higgins, *comb. nov.*  
BASIONYM: *Epidendrum concolor* La Llave & Lex., *Nov. Veg. Descr.* 25.  
1825.
- Prosthechea cretacea* (Dressler & Pollard) W.E. Higgins, *comb. nov.*  
BASIONYM: *Encyclia cretacea* Dressler & Pollard, *Phytologia* 21:438. 1971.
- Prosthechea faresiana* (Bicalho) W.E. Higgins, *comb. nov.* BASIONYM:  
*Hormidium faresianum* Bicalho, *Bol. Soc. Campineira Orq.* 3(3):91. 1973.
- Prosthechea fausta* (Rchb. f. ex Cogn.) W.E. Higgins, *comb. nov.* BASIONYM:  
*Epidendrum faustum* Rchb. f. ex Cogn., *Fl. Brasil.* 3(5): 80. 1900.
- Prosthechea fortunae* (Dressler) W.E. Higgins, *comb. nov.* BASIONYM:  
*Encyclia fortunae* Dressler, *Orquidea (México)* 7(4):359. 1980.
- Prosthechea fragrans* (Sw.) W.E. Higgins, *comb. nov.* BASIONYM:  
*Epidendrum fragrans* Sw., *Prodr.* 123. 1788.



- Prosthechea garciana* (Garay & Dunst.) W.E. Higgins, *comb. nov.* BASIONYM: *Epidendrum garcianum* Garay & Dunst., *Venezuelan Orchids* 2:122. 1961.
- Prosthechea ghiesbreghtiana* (A. Rich & Galeotti) W.E. Higgins, *comb. nov.* BASIONYM: *Epidendrum ghiesbreghtianum* A. Rich & Galeotti, *Ann. Sc. Nat.* III 3:19. 1845.
- Prosthechea gilbertoi* (Garay) W.E. Higgins, *comb. nov.* BASIONYM: *Epidendrum gilbertoi* Garay, *Orquideologia* 6(1):16. 1971.
- Prosthechea glumacea* (Lindl.) W.E. Higgins, *comb. nov.* BASIONYM: *Epidendrum glumaceum* Lindl., *Bot. Reg.* 25 misc. 38, n. 50. 1839.
- Prosthechea grammatoglossa* (Rchb. f.) W.E. Higgins, *comb. nov.* BASIONYM: *Epidendrum grammatoglossum* Rchb. f., *Linnaea* 22:837. 1849.
- Prosthechea greenwoodiana* (Aguirre-Olav.) W.E. Higgins, *comb. nov.* BASIONYM: *Encyclia greenwoodiana* Aguirre-Olav., *Orquidea (México)* 12:205. 1992.
- Prosthechea grisebachianum* (Cogn.) W.E. Higgins, *comb. nov.* BASIONYM: *Epidendrum grisebachianum* Cogn. in Urb., *Symb. Antill.* 6:495, n. 255. 1910.
- Prosthechea hartwegii* (Lindl.) W.E. Higgins, *comb. nov.* BASIONYM: *Epidendrum hartwegii* Lindl. in Bentham, *Pl. Hartw.* 150. 1844.
- Prosthechea hastata* (Lindl.) W.E. Higgins, *comb. nov.* BASIONYM: *Epidendrum hastatum* Lindl., *J. Bot. (Hooker)* 3:82, n. 3. 1841.
- Prosthechea hoehnei* (A.D. Hawks) W.E. Higgins, *comb. nov.* BASIONYM: *Epidendrum hoehnei* A.D. Hawks, *Orquidea* 18:171. 1956.
- Prosthechea inversa* (Lindl.) W.E. Higgins, *comb. nov.* BASIONYM: *Epidendrum inversum* Lindl., *Bot. Reg.* 25: misc. 85, n. 135. 1939.
- Prosthechea ionocentra* (Rchb. f.) W.E. Higgins, *comb. nov.* BASIONYM: *Epidendrum ionocentrum* Rchb. f., *Gard. Chron.* 2:8. 1883.
- Prosthechea ionophlebia* (Rchb. f.) W.E. Higgins, *comb. nov.* BASIONYM: *Epidendrum ionophlebium* Rchb. f., *Beitr. Orchid.-K. C. Amer.* 103, n. 6. 1866.
- Prosthechea jauana* (Carnevali & Ramírez) W.E. Higgins, *comb. nov.* BASIONYM: *Encyclia jauana* Carnevali & Ramírez, *Lindleyana* 9:67. 1994.
- Prosthechea kautzkii* (Pabst) W.E. Higgins, *comb. nov.* BASIONYM: *Encyclia kautzkii* Pabst, *Orquidea* 14:63. 1967.
- Prosthechea lambda* (Linden & Rchb. f.) W.E. Higgins, *comb. nov.* BASIONYM: *Epidendrum lambda* Linden & Rchb. f., *Bonplandia* 2:281. 1854.

- Prosthechea lindenii* (Lindl.) W.E. Higgins, *comb. nov.* BASIONYM: *Epidendrum lindenii* Lindl., Bot. Reg. 24: misc. 51, n. 91. 1838.
- Prosthechea linkiana* (Kl.) W.E. Higgins, *comb. nov.* BASIONYM: *Epidendrum linkianum* Kl., Allg. Gartenzeitung 6:299. 1838.
- Prosthechea livida* (Lindl.) W.E. Higgins, *comb. nov.* BASIONYM: *Epidendrum lividum* Lindl., Bot. Reg. 24: misc. 51, n. 91. 1838.
- Prosthechea maculosa* (Ames, F.T. Hubb., & Schweinf.) W.E. Higgins, *comb. nov.* BASIONYM: *Epidendrum maculosum* Ames, F.T. Hubb., & Schweinf., Bot. Mus. Leaflet. 3:72. 1935.
- Prosthechea magnispatha* (Ames, F.T. Hubb., & Schweinf.) W.E. Higgins, *comb. nov.* BASIONYM: *Epidendrum magnispathum* Ames, F.T. Hubb., & Schweinf., Bot. Mus. Leaflet. 3:10. 1934.
- Prosthechea mariae* (Ames) W.E. Higgins, *comb. nov.* BASIONYM: *Epidendrum mariae* Ames, Bot. Mus. Leaflet. 5:36. 1937.
- Prosthechea michuacana* (La Llave & Lex.) W.E. Higgins, *comb. nov.* BASIONYM: *Epidendrum michuacanum* La Llave & Lex., Nov. Veg. Descr. 2:26. 1825.
- Prosthechea moojenii* (Pabst) W.E. Higgins, *comb. nov.* BASIONYM: *Epidendrum moojenii* Pabst, Orquidea 17(6):204. 1955.
- Prosthechea neurosa* (Ames) W.E. Higgins, *comb. nov.* BASIONYM: *Epidendrum neurosum* Ames, *Schedul. Orch.* 1:17. 1922.
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